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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,490	08/04/2003	Juliane Suermann	MERCK-2730	5145
23599	7590	05/12/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			WU, SHEAN CHIU	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/633,490	SUERMANN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shean C Wu	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \*    c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-14 are rejected under 35 U.S.C. 102(a) as being anticipated by DE 10,221,751.

The reference discloses that a liquid crystalline medium having a helical twisted structure comprising a nematic component and an optically active component, which the optically active component contains one or more chiral compounds whose twist properties and concentration are such that the helical pitch of the medium is no greater than 1 micron m and the nematic component comprises a compound of formula (I) and one or more compounds of formula (II) and/or (III). The reference further discloses additional compounds used in LC medium (see pages 8-13), particularly, V2, V2a and VI2, which correspond the compound of the present formula II. Also, see the claims. The reference anticipates the claimed invention.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 10,058,474.

The reference discloses that twisted nematic (TN) and super-twisted nematic (STN) liquid crystal displays contain a nematic liquid crystal mixture containing a terminal C=C-CN group containing compound of formula (I) and one or more alkenyl compounds of formula (II). The display comprises a nematic positively dielectric anisotropic liquid crystal mixture, which contains

- (a) one or more compounds of dielectric anisotropy above +1.5 (15-80%);
- (b) one or more compounds of dielectric anisotropy between -1.5 and +1.5 (20-85%);
- (c) one or more compounds of dielectric anisotropy below -1.5 (0-20%); and
- (d) optionally sufficient optically-active compound to give a ratio between the layer thickness (inter-plate distance) and the natural helix pitch of the chiral liquid crystal mixture of ca. 0.2-1.3.

The reference differs from the present claims in that the claims have more specific helix pitch and birefringence. However, the liquid crystalline media disclosed in the reference have similar components as the present claims, particularly, Examples 3-4 and 10-16, which comprises the compounds of the present formula I (PCH-3N.F.F, ME2N.F, ME3N.F, ME4N.F and ME4N.F), formula II or III2 (CCG-V-F), formula III1 (CC-5-V, CCP-V-1) and formulae IV25 and IV27 (CCPC-33 and CCPC-34). Also, the reference teaches optically active compound can be added to obtain a desired helix pitch.

Therefore, it would have been obvious to those skilled in the art to add one more optically active compounds to the reference mixtures to arrive at the claimed invention.

***Claim Rejections - 35 USC § 112***

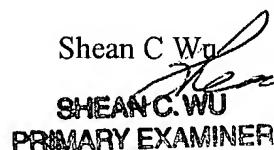
5. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim is vague because the compound of formulae II and III2 can overlap each other.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Shean C Wu  
**SHEAN C. WU**  
PRIMARY EXAMINER